

**Manufacturers' Shipments,
Inventories, and Orders****JANUARY 1978**For Release March 3, 1978, 3:00 P.M.
M3-1(78)-1U.S. Department of Commerce
BUREAU OF THE CENSUS

All figures in text below are in seasonally adjusted current dollars.

New orders for manufactured products in January declined 3.6 percent or \$4.3 billion to \$117.2 billion the Department of Commerce, Bureau of the Census reported today. Shipments of manufactured products were \$113.7 billion, 2.8 percent or \$3.3 billion below December; and total inventories were \$177.5 billion, \$0.7 billion or 0.4 percent above December. The shipments and new orders declines were the largest since December 1974 when shipments declined by 5.0 percent and new orders declined by 6.3 percent.

About two-thirds of the decrease in new orders for durable goods may be traced to the \$2.2 billion or 59 percent decline in new orders for defense aircraft and parts. This decline follows some of the largest increases ever recorded in this series, which also includes export orders for military aircraft. During the fourth quarter of 1977, new orders for defense aircraft and parts were \$8.0 billion compared to \$2.6 billion in the third quarter of 1977. The January decline in this series was also reflected in the \$2.8 billion or 16 percent decline in transportation equipment and the \$1.7 billion or 35 percent decline in defense capital goods new orders.

New orders for primary metals rose \$0.2 billion or 2.5 percent due to a \$0.6 billion or 14 percent rise in steel orders. Orders for nonelectrical machinery fell by 7.3 percent or \$0.9 billion, while orders for electrical machinery rose by \$0.7 billion or 8.9 percent. New orders for nondefense capital goods fell \$0.7 billion or 4.3 percent to \$16.6 billion following a \$1.5 billion or 9.3 percent increase in December.

With the exception of electrical machinery, shipments declined in every major industry group in January. In the durable industries: shipments of nonelectrical machinery fell 5.7 percent or \$0.6 billion; shipments of motor vehicles and parts decreased by 5.7 percent or \$0.6 billion; and shipments of fabricated metal products declined by 4.6 percent or \$0.4 billion. In the nondurable goods industries: shipments of foods declined by \$0.3 billion or 1.8 percent; shipments of petroleum products fell by \$0.2 billion or 2.3 percent; and shipments of chemicals decreased by \$0.2 billion or 1.6 percent.

The backlog of unfilled orders in all industries continued to rise in January. The backlog of orders for steel products showed

the largest increase, with a \$0.9 billion or 7.4 percent rise to \$12.8 billion at the end of January. The backlog of orders for fabricated metal products rose \$0.6 billion or 2.5 percent and the backlog of orders for electrical machinery rose \$0.8 billion or 3.2 percent to \$26.4 billion.

Inventories held by durable goods manufacturers rose \$0.4 billion or 0.3 percent to \$112.9 billion. Most of the durable goods industries increase was in the nonelectrical machinery industries where inventories rose \$0.2 billion or 0.9 percent to \$26.3 billion. Inventories held by nondurable goods manufacturers rose \$0.4 billion or 0.6 percent to \$64.5 billion. The largest increase in the nondurable goods sector was in the chemicals industries where inventories rose \$0.2 billion or 1.4 percent to \$14.4 billion.

NOTICE

The next benchmark report in this series (M3-1.7) is tentatively scheduled for release at the end of March. This report will include revisions to the shipments and inventory series to reflect adjustments to the 1974-1976 Annual Surveys of Manufactures and a recomputation of the factors used to seasonally adjust the individual series. This report will be similar in format and content to the M3-1.6 report issued in December 1976. The Advance Report on Durable Goods for March 1978 (scheduled for release on April 21), will be based on the revised series and seasonal factors contained in the forthcoming benchmark report.

SCHEDULED RELEASE DATES

The figures on the durable goods industries in this report supersede those issued earlier in the advance report on durable goods. The present report is based on more complete reporting, but the estimates are also considered preliminary. Final figures will appear as historical data in the report to be published for next month. The advance report on durable goods for February is scheduled for release on March 21, 1978 and the full report is scheduled for release on March 30, 1978.

Address inquiries concerning these figures to U.S. Department of Commerce, Bureau of the Census, Industry Division, Washington, D.C. 20233, or call William Menth, (301) 763-2502.

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Table 1.--VALUE OF MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS, BY INDUSTRY GROUP

(Millions of dollars.)

Industry group	Shipments						Total inventories					
	Seasonally adjusted			Without seasonal adjustment ¹			Seasonally adjusted			Without seasonal adjustment ¹		
	Jan. 1978P	Dec. 1977 ^r	Nov. 1977	Jan. 1978P	Dec. 1977 ^r	Annual total 1977 ^r	Jan. 1978P	Dec. 1977 ^r	Nov. 1977	Jan. 1978P	Dec. 1977 ^r	Nov. 1977
All manufacturing industries:												
Total.....	113,664	116,929	113,240	105,630	110,685	1,327,341	177,469	176,720	177,162	179,302	177,363	176,493
Total, excluding transportation.....	99,843	102,574	99,724	92,782	97,511	1,163,944	157,173	156,491	156,775	158,590	157,005	155,862
Total for industries with unfilled orders...	58,904	61,043	58,874	54,368	58,137	684,650	118,301	117,847	118,175	119,048	117,541	117,110
Durable goods industries, total.	59,643	61,675	59,154	54,542	57,715	692,286	112,938	112,558	112,548	113,781	112,291	111,560
Durable goods with unfilled orders.....	46,947	48,713	46,928	43,091	46,278	544,024	103,619	103,233	103,457	104,409	103,088	102,738
Stone, clay, and glass products.	3,131	3,221	2,975	2,706	2,763	35,155	4,590	4,469	4,562	4,604	4,385	4,354
Primary metals, total.....	8,350	8,598	8,323	7,960	7,956	98,384	17,084	17,370	17,581	17,478	17,517	17,394
Blast furnaces, steel mills.	4,100	4,319	4,296	4,088	4,047	49,960	9,532	9,782	10,100	9,895	10,105	10,100
Nonferrous and other primary metals.....	3,324	3,310	3,052	3,021	3,065	37,503	6,459	6,501	6,392	6,485	6,345	6,258
Fabricated metal products total.....	7,210	7,556	7,491	6,554	7,071	88,051	13,911	13,969	13,966	13,815	13,714	13,681
Metal cans, barrels, and drums.....	644	588	571	555	495	7,755	1,236	1,334	1,251	1,222	1,203	1,132
Machinery, except electrical, total.....	10,434	11,061	10,571	9,701	10,921	121,638	26,308	26,079	25,734	26,454	26,082	25,504
Engines and turbines.....	1,010	891	989	914	1,012	10,885	2,184	2,117	2,094	2,186	2,127	2,126
Farm machinery and equipment.	764	904	819	721	711	10,446	2,478	2,446	2,486	2,538	2,432	2,377
Construction, mining, and material handling equipment.	2,120	2,169	2,103	2,050	1,924	22,510	5,749	5,748	5,571	5,841	5,782	5,460
Metalworking machinery.....	657	649	646	615	682	7,089	1,672	1,674	1,651	1,673	1,659	1,663
General industrial machinery	882	988	955	787	995	10,839	2,811	2,863	2,795	2,819	2,803	2,745
Electrical machinery, total...	7,641	7,411	7,228	6,924	7,267	82,223	15,706	15,684	15,523	15,745	15,537	15,376
Electrical transmission and distribution equipment and industrial apparatus.....	1,625	1,362	1,392	1,462	1,351	16,003	3,161	3,200	3,125	3,176	3,198	3,116
Household appliances.....	1,069	1,015	987	876	929	11,075	1,694	1,670	1,646	1,755	1,671	1,600
Radio and TV.....	562	591	568	489	616	6,016	981	906	867	913	867	844
Communication equipment.....	1,949	1,862	1,934	1,853	1,938	21,663	4,972	5,074	4,988	5,076	5,048	4,983
Transportation equipment, total	13,821	14,355	13,516	12,848	13,174	163,397	20,296	20,229	20,387	20,712	20,358	20,631
Motor vehicles and parts....	9,199	9,760	9,292	8,984	8,778	113,022	7,242	7,076	7,339	7,459	7,161	7,456
Aircraft, missiles, and parts.....	2,849	2,789	2,609	2,491	2,867	32,484	9,996	10,137	10,096	10,132	10,123	10,162
Shipbuilding and military tank vehicles.....	639	669	675	574	671	7,390	1,396	1,344	1,367	1,414	1,406	1,426
Instruments and related products, total.....	2,413	2,449	2,351	2,205	2,450	27,898	5,111	4,966	5,008	5,044	4,926	4,955
Scientific and engineering...	1,506	1,452	1,441	1,436	1,426	16,602	3,281	3,158	3,178	3,265	3,199	3,159
Photographic goods.....	750	842	750	624	879	9,146	1,359	1,352	1,357	1,318	1,284	1,329
All other durable goods industries.....	6,643	7,024	6,699	5,644	6,113	75,540	9,932	9,792	9,787	9,929	9,772	9,665
Nondurable goods industries, total.....	54,021	55,254	54,086	51,088	52,970	635,055	64,531	64,162	64,614	65,521	65,072	64,933
Nondurable goods with unfilled orders.....	11,957	12,330	11,946	11,277	11,859	140,626	14,682	14,614	14,718	14,639	14,453	14,372
Food and kindred products, total.....	15,762	16,051	15,827	15,107	16,050	186,880	15,642	15,654	16,114	16,196	16,385	17,031
Meat products.....	4,004	4,110	3,991	4,000	4,143	47,014	1,273	1,194	1,289	1,282	1,178	1,328
Fats and oils.....	1,555	1,571	1,490	1,560	1,549	18,281	1,392	1,457	1,422	1,564	1,669	1,673
Tobacco products.....	749	803	746	712	800	8,633	3,533	3,585	3,666	3,844	3,829	3,674
Textile mill products.....	3,692	3,827	3,701	3,329	3,592	42,411	5,530	5,451	5,400	5,499	5,306	5,250
Paper and allied products, total.....	4,614	4,769	4,495	4,418	4,450	54,375	5,639	5,573	5,699	5,655	5,619	5,645
Pulp, paper, etc.....	1,953	2,107	1,956	1,899	1,959	23,830	2,116	2,112	2,170	2,110	2,120	2,139
Paperboard containers.....	1,046	997	1,008	982	938	12,367	1,450	1,428	1,443	1,433	1,425	1,446
All other paper containers...	1,615	1,665	1,531	1,537	1,553	18,178	2,073	2,033	2,086	2,112	2,074	2,060
Chemicals and allied products, total.....	9,658	9,820	9,648	9,116	9,042	112,475	14,427	14,223	14,265	14,716	14,448	14,129
Industrial chemicals, except pigments.....	3,017	3,247	3,351	3,081	3,081	37,901	4,079	4,116	4,129	4,185	4,182	4,105
Drugs, soap, and toiletries.	2,406	2,382	2,327	2,283	2,251	27,251	4,279	4,163	4,221	4,237	4,150	4,129
Petroleum and coal products...	8,186	8,382	8,175	8,040	8,377	96,562	5,992	6,023	6,004	5,929	6,017	6,114
Rubber and plastics products, n.e.c.....	3,171	3,273	3,188	2,918	2,994	37,192	4,301	4,200	4,137	4,320	4,248	4,070
All other nondurable goods industries.....	8,189	8,329	8,306	7,448	7,665	96,527	9,467	9,453	9,329	9,362	9,220	9,020

See footnotes at end of table.

Table 1.--VALUE OF MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS, BY INDUSTRY GROUP--Continued

(Millions of dollars)

Industry group	New orders						Unfilled orders					
	Seasonally adjusted			Without seasonal adjustment ¹			Seasonally adjusted			Without seasonal adjustment ¹		
	Jan. 1978 ^P	Dec. 1977 ^R	Nov. 1977	Jan. 1978 ^P	Dec. 1977 ^R	Annual total 1977 ^R	Jan. 1978 ^P	Dec. 1977 ^R	Nov. 1977	Jan. 1978 ^P	Dec. 1977 ^R	Nov. 1977
All manufacturing industries:												
Total.....	117,223	121,566	116,068	109,943	114,312	1,346,031	197,611	194,056	189,416	197,210	192,902	189,282
Total, excluding transportation.....	102,829	104,337	101,655	95,839	98,781	1,175,176	136,839	133,854	132,089	135,509	132,457	131,194
Total for industries with unfilled orders....	62,463	65,680	61,702	58,681	61,764	703,525	-	-	-	-	-	-
Durable goods industries, total.	63,023	66,162	61,984	58,480	61,298	710,307	188,614	185,239	180,750	188,353	184,418	180,840
Durable goods with unfilled orders.....	50,327	53,200	49,758	47,029	49,861	562,230	-	-	-	-	-	-
Primary metals, total.....	9,170	8,948	8,901	8,765	8,552	101,014	19,480	18,660	18,312	19,171	18,368	17,772
Blast furnaces, steel mills.	4,981	4,356	4,747	4,686	4,273	51,836	12,754	11,873	11,837	12,435	11,838	11,612
Nonferrous and other primary metal products.....	3,205	3,605	3,155	3,166	3,413	37,987	5,369	5,488	5,193	5,363	5,219	4,871
Fabricated metal products.....	7,814	7,609	8,051	7,083	7,037	88,573	24,368	23,765	23,711	24,135	23,608	23,643
Machinery, except electrical, total.....	10,795	11,650	10,717	10,002	11,352	125,008	47,560	47,199	46,605	47,334	47,033	46,602
Engines and turbines.....	898	957	812	705	1,362	11,132	16,665	16,777	16,710	16,629	16,840	16,490
Construction, mining, and material handling equipment.	2,296	2,304	2,239	2,239	1,991	22,939	7,004	6,827	6,692	6,955	6,766	6,699
Metalworking machinery.....	734	767	731	647	747	7,747	3,652	3,575	3,457	3,582	3,550	3,485
General industrial machinery.	863	1,142	858	774	1,077	11,137	6,678	6,697	6,543	6,678	6,691	6,608
Electrical machinery, total...	8,459	7,768	7,762	7,671	7,458	84,701	26,449	25,632	25,276	26,301	25,554	25,366
Electrical transmission and distribution equipment and industrial apparatus.....	1,679	1,402	1,452	1,545	1,362	16,108	6,053	5,999	5,959	6,044	5,961	5,950
Household appliances.....	1,141	1,038	1,014	937	955	11,140	436	364	341	387	325	300
Radio and TV.....	653	559	557	553	594	5,981	601	511	543	555	491	513
Communication equipment.....	2,429	2,186	2,277	2,332	2,116	23,291	12,664	12,184	11,861	12,748	12,269	12,093
Transportation equipment, total.....	14,394	17,229	14,413	14,104	15,531	170,855	60,772	60,202	57,327	61,701	60,445	58,088
Aircraft, missiles, and parts.....	3,304	5,489	3,284	3,320	5,040	39,339	42,026	41,573	38,872	42,698	41,870	39,697
Shipbuilding and military tank vehicles.....	483	466	934	641	366	6,436	9,081	9,237	9,440	9,077	9,009	9,315
All other durable goods industries.....	12,391	12,958	12,140	10,855	11,368	140,156	9,985	9,781	9,519	9,711	9,410	9,369
Nondurable goods industries, total.....	54,200	55,404	54,084	51,463	53,014	635,724	8,997	8,817	8,666	8,857	8,484	8,442
Industries with unfilled orders.....	12,136	12,480	11,944	11,652	11,903	141,295	8,997	8,817	8,666	8,857	8,484	8,442
Industries without unfilled orders.....	42,064	42,924	42,140	39,811	41,111	494,429	-	-	-	-	-	-

- Represents zero. ^PPreliminary. ^RRevised.¹Adjusted for trading-day and calendar-month variations.

Table 2.--VALUE OF MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS, FOR MARKET CATEGORIES AND SUPPLEMENTARY SERIES
(Millions of dollars)

Industry group	Seasonally adjusted			Without seasonal adjustment ¹			Seasonally adjusted			Without seasonal adjustment		
	Jan. 1978 ^p	Dec. 1977 ^r	Nov. 1977	Jan. 1978 ^p	Dec. 1977 ^r	Annual total ^r 1977	Jan. 1978 ^p	Dec. 1977 ^r	Nov. 1977	Jan. 1978 ^p	Dec. 1977 ^r	Nov. 1977
	Shipments						Total inventories					
All manufacturing industries, total..	113,664	116,929	113,240	105,630	110,685	1,327,341	177,469	176,720	177,162	179,302	177,363	176,493
Durable goods industries, total.....	59,643	61,675	59,154	54,542	57,715	692,286	112,938	112,558	112,548	113,781	112,291	111,560
Nondurable goods industries, total.....	54,021	55,254	54,086	51,088	52,970	635,055	64,531	64,162	64,614	65,521	65,072	64,933
Industry groups arranged by market categories:												
Home goods and apparel.....	9,235	9,495	9,279	8,064	8,304	104,875	14,883	14,558	14,479	14,776	14,306	14,109
Consumer staples.....	19,763	20,072	19,902	18,771	19,960	232,770	24,133	24,085	24,700	24,784	24,762	25,201
Equipment and defense products, except automotive.....	15,624	16,244	15,529	14,196	16,213	180,008	41,974	41,964	41,536	42,256	41,867	41,356
Automotive equipment.....	11,168	11,851	11,290	10,566	10,456	135,414	9,616	9,392	9,523	9,817	9,450	9,583
Construction materials, supplies, and intermediate products.....	10,039	10,640	10,112	8,409	9,529	116,915	15,062	14,887	14,951	15,043	14,761	14,634
Other materials and supplies and intermediate products.....	47,835	48,627	47,128	45,624	46,223	557,359	71,801	71,834	71,973	72,626	72,217	71,610
Supplementary series: ²												
Household durable goods industries.....	3,924	4,080	3,952	3,398	3,770	43,572	7,599	7,403	7,445	7,587	7,330	7,283
Capital goods industries.....	18,367	18,610	17,870	16,706	18,637	205,914	46,673	46,670	46,092	46,998	46,588	46,030
Nondefense.....	15,681	15,873	15,224	14,326	15,858	174,883	40,036	40,020	39,461	40,255	39,908	39,344
Defense.....	2,686	2,737	2,646	2,380	2,779	31,031	6,637	6,650	6,631	6,743	6,680	6,686
	New orders						Unfilled orders					
All manufacturing industries, total..	117,223	121,566	116,068	109,943	114,312	1,346,031	197,611	194,056	189,416	197,210	192,902	189,282
Durable goods industries, total.....	63,023	66,162	61,984	58,480	61,298	710,307	188,614	185,239	180,750	188,353	184,418	180,840
Nondurable goods industries, total.....	54,200	55,404	54,084	51,463	53,014	635,724	8,997	8,817	8,666	8,857	8,484	8,442
Industry groups arranged by market categories:												
Home goods and apparel.....	9,475	9,556	9,223	8,264	8,202	105,606	4,380	4,111	4,075	4,136	3,882	4,002
Consumer staples.....	19,793	20,050	19,885	18,825	19,943	232,791						
Equipment and defense products, except automotive.....	17,202	18,738	17,309	16,239	18,129	188,450	112,299	110,494	107,889	113,014	110,690	108,554
Automotive equipment.....	11,395	11,963	11,152	10,845	10,682	136,624						
Construction materials, supplies, and intermediate products.....	10,451	10,774	10,732	8,839	9,587	117,815	19,340	18,929	18,794	19,193	18,763	18,706
Other materials and supplies and intermediate products.....	48,907	50,485	47,767	46,931	47,772	564,745	61,592	60,522	58,658	60,867	59,567	58,020
Supplementary series: ²												
Household durable goods industries.....	4,113	4,159	3,944	3,551	3,708	44,359	3,608	3,421	3,344	3,348	3,195	3,257
Capital goods industries.....	19,753	22,210	19,453	18,671	21,295	216,668	122,302	120,914	117,310	122,778	120,814	118,158
Nondefense.....	16,618	17,366	15,883	15,436	16,908	183,250	87,328	86,388	84,892	87,348	86,238	85,188
Defense.....	3,135	4,844	3,570	3,235	4,387	33,418	34,974	34,526	32,418	35,430	34,576	32,970

During 1968 manufacturers in ordnance, communications, aircraft and aircraft parts, and shipbuilding industries began to provide aggregate figures on shipments, orders, and total inventories of work performed for the Department of Defense. The results of these reports are included in the defense series. P Preliminary. R Revised. ¹Shipments and new orders adjusted for trading-day and calendar-month variations; unfilled orders and inventories as of end of month. ²The supplementary series are regroupings of the separate industry categories as follows:

Household durable goods industries - Household furniture; kitchen articles and pottery; cutlery, handtools, and hardware; household appliances; ophthalmic goods, watches, and clocks, watchcases; and miscellaneous personal goods.
Capital goods industries - The capital goods industries series is comparable to the previous Producers' Capital Goods and the Defense Products (old series) categories.
Nondefense industries - Machinery, except electrical (excluding farm machinery and equipment and machine shops), electrical machinery (excluding household appliances and electronic components), railroad equipment and the nondefense portions of shipbuilding and military tank vehicles, communication equipment, aircraft, aircraft parts and ordnance.
Defense products (new series) - Based on separate reports on defense work filed by large defense contractors in the following industries: ordnance, communications, complete aircraft, aircraft parts, and shipbuilding and military tank vehicles. The data are comparable to those published annually in the MA-175, Shipments of Defense-Oriented Industries, for the specified industries.

Table 3.--MANUFACTURERS' SHIPMENTS, INVENTORIES, AND ORDERS MONTH-TO-MONTH AND LONG TERM PERCENT CHANGES

* (Based on seasonally adjusted data)

Item and industry group	Month-to-month			Average monthly rates of change				Average, 1973-1977	
	Dec.- Jan. 1978	Nov.- Dec. 1977	Oct.- Nov. 1977	3 months			12 months Jan. 1977 Jan. 1978	Average rise	Average decline
				Oct.- Jan. 1978	July- Oct. 1977	April- July 1977			
Shipments:									
All manufacturing industries.....	-2.8	+3.3	+0.1	+0.2	+1.2	-0.1	+0.8	+1.6	-1.1
Durable goods industries, total.....	-3.3	+4.3	-0.2	+0.3	+1.4	+0.0	+1.0	+2.0	-1.6
Nondurable goods industries, total.....	-2.2	+2.2	+0.4	+0.1	+0.9	-0.3	+0.6	+1.6	-1.2
Total inventories:									
All manufacturing industries.....	+0.4	-0.2	+0.2	+0.1	+0.4	+0.7	+0.5	+1.0	-0.4
New orders:									
All manufacturing industries.....	-3.6	+4.7	-0.4	+0.2	+2.4	-0.9	+0.9	+2.0	-1.5
Durable goods industries, total.....	-4.7	+6.7	-0.8	+0.4	+3.7	-1.5	+1.2	+3.2	-2.1
Nondurable goods industries, total.....	-2.2	+2.4	+0.1	+0.1	+0.9	-0.2	+0.6	+1.8	-1.0
Unfilled orders:									
Durable goods industries, total.....	+1.8	+2.5	+1.6	+2.0	+0.8	+0.5	+0.9	+1.6	-0.9

Table 4.--VALUE OF MANUFACTURERS' INVENTORIES, BY STAGE OF FABRICATION, BY INDUSTRY GROUP

(Millions of dollars)

Industry group	Seasonally adjusted			Without seasonal adjustment			Seasonally adjusted			Without seasonal adjustment		
	Jan. 1978 ^p	Dec. 1977 ^r	Nov. 1977	Jan. 1978 ^p	Dec. 1977 ^r	Nov. 1977	Jan. 1978 ^p	Dec. 1977 ^r	Nov. 1977	Jan. 1978 ^p	Dec. 1977 ^r	Nov. 1977
	Total						Materials and supplies					
All manufacturing industries, total..	177,469	176,720	177,162	179,302	177,363	176,493	62,762	63,073	63,500	63,756	64,177	63,456
Durable goods industries, total.....	112,938	112,558	112,548	113,781	112,291	111,560	36,561	36,829	37,147	36,993	37,429	37,162
Stone, clay, and glass products.....	4,590	4,469	4,562	4,604	4,385	4,354	1,630	1,601	1,581	1,628	1,609	1,560
Primary metals.....	17,084	17,370	17,581	17,478	17,517	17,394	7,529	8,010	8,035	7,715	8,222	8,179
Machinery (electrical and nonelectrical).	42,014	41,763	41,257	42,199	41,619	40,880	11,599	11,612	11,518	11,644	11,661	11,287
Transportation equipment.....	20,296	20,229	20,387	20,712	20,358	20,631	5,879	5,630	5,921	6,026	5,821	6,045
All other durable goods industries.....	28,954	28,727	28,761	28,788	28,412	28,301	9,924	9,976	10,092	9,980	10,116	10,091
Nondurable goods industries, total.....	64,531	64,162	64,614	65,521	65,072	64,933	26,201	26,244	26,353	26,763	26,748	26,294
Chemicals and allied products.....	14,427	14,223	14,265	14,716	14,448	14,129	5,773	5,671	5,551	5,880	5,664	5,498
Petroleum and coal products.....	5,992	6,023	6,004	5,929	6,017	6,114	2,072	2,050	2,055	2,037	1,989	2,013
Rubber and plastics products, n.e.c.....	4,301	4,200	4,137	4,320	4,248	4,070	1,465	1,467	1,438	1,461	1,485	1,415
All other nondurable goods industries....	39,811	39,716	40,208	40,556	40,359	40,620	16,891	17,056	17,309	17,385	17,610	17,368
	Work in process						Finished goods					
All manufacturing industries, total..	55,464	55,085	54,699	55,758	54,584	54,560	59,243	58,562	58,963	59,788	58,602	58,477
Durable goods industries, total.....	45,828	45,328	44,938	46,039	44,906	44,787	30,549	30,401	30,463	30,749	29,956	29,611
Stone, clay, and glass products.....	727	733	751	730	689	689	2,233	2,135	2,230	2,246	2,087	2,105
Primary metals.....	5,743	5,701	5,846	5,845	5,612	5,630	3,812	3,659	3,700	3,918	3,683	3,585
Machinery (electrical and nonelectrical).	18,376	18,141	17,910	18,485	18,046	17,924	12,039	12,010	11,829	12,070	11,912	11,669
Transportation equipment.....	11,685	11,777	11,556	11,858	11,738	11,694	2,732	2,822	2,910	2,828	2,799	2,892
All other durable goods industries.....	9,297	8,976	8,875	9,121	8,821	8,850	9,733	9,775	9,794	9,687	9,475	9,360
Nondurable goods industries, total.....	9,636	9,757	9,761	9,719	9,678	9,773	28,694	28,161	28,500	29,039	28,646	28,866
Chemicals and allied products.....	2,373	2,443	2,460	2,388	2,433	2,424	6,281	6,109	6,254	6,448	6,351	6,207
Petroleum and coal products.....	1,246	1,216	1,230	1,217	1,207	1,226	2,674	2,757	2,719	2,675	2,821	2,875
Rubber and plastics products, n.e.c.....	730	753	750	760	759	737	2,106	1,980	1,949	2,099	2,004	1,918
All other nondurable goods industries....	5,287	5,345	5,321	5,354	5,279	5,386	17,633	17,315	17,578	17,817	17,470	17,866

^pPreliminary.^rRevised.

Table 5.--RATIO OF MANUFACTURERS' INVENTORIES TO SHIPMENTS AND UNFILLED ORDERS TO SHIPMENTS, BY INDUSTRY GROUP

(Based on seasonally adjusted data)

Industry group	Inventories - shipments ratio				Unfilled orders - shipments ratio ¹ (months' backlog)			
	Jan. 1978 ^p	Dec. 1977 ^r	Nov. 1977	Oct. 1977	Jan. 1978 ^p	Dec. 1977 ^r	Nov. 1977	Oct. 1977
All manufacturing industries, total.....	1.56	1.51	1.56	1.56	3.35	3.18	3.22	3.19
Durable goods industries, total.....	1.89	1.83	1.90	1.89	4.02	3.80	3.85	3.81
Stone, clay, and glass products.....	1.47	1.39	1.53	1.53	0.95	0.90	0.97	0.97
Primary metals.....	2.05	2.02	2.11	2.16	2.33	2.17	2.20	2.15
Fabricated metals.....	1.93	1.85	1.86	1.83	3.71	3.41	3.43	3.36
Machinery, except electrical.....	2.52	2.36	2.43	2.40	4.92	4.65	4.78	4.76
Electrical machinery.....	2.06	2.12	2.15	2.19	3.46	3.46	3.50	3.51
Transportation equipment.....	1.47	1.41	1.51	1.46	9.28	8.50	8.63	8.24
Instruments and related products.....	2.12	2.03	2.13	2.12	1.79	1.72	1.74	1.71
Nondurable goods industries, total.....	1.19	1.16	1.19	1.20	0.75	0.72	0.73	0.73
Food and kindred products.....	0.99	0.98	1.02	1.05	(X)	(X)	(X)	(X)
Tobacco products.....	4.72	4.46	4.91	5.23	(X)	(X)	(X)	(X)
Textile mill products.....	1.50	1.42	1.46	1.50	(NA)	(NA)	(NA)	(NA)
Paper and allied products.....	1.22	1.17	1.27	1.27	(NA)	(NA)	(NA)	(NA)
Chemicals and allied products.....	1.49	1.45	1.48	1.52	(X)	(X)	(X)	(X)
Petroleum and coal products.....	0.73	0.72	0.73	0.70	(X)	(X)	(X)	(X)
Rubber and plastics products, n.e.c.....	1.36	1.28	1.30	1.32	(X)	(X)	(X)	(X)

(NA) Not available. ^pPreliminary. ^rRevised. (X) Not applicable.¹Excludes the following industries with no unfilled orders: Wood and lumber products; glass containers; metal cans, barrels and drums; motor vehicles assembly operations; foods and related products; tobacco; apparel and related products; chemicals; petroleum and coal products; and rubber and plastics products, n.e.c.

APPENDIX

The following is a description of the survey and definitions used. These are provided to clarify the meaning of the items involved and do not represent any revisions from those definitions previously employed.

DESCRIPTION OF SURVEY

The Manufacturers' Shipments, Inventories, and Orders survey provides monthly figures that are comparable to the annual totals published each year in the Annual Survey of Manufactures (ASM). The ASM is based on a sample of approximately 60,000 manufacturing establishments drawn from the 5-year census universe of about 310,000 establishments. In the ASM, each manufacturing establishment provides data on employment, payrolls, shipments, cost of materials, capital expenditures, and inventories as well as other selected items. The establishments do not provide information on unfilled orders or new orders. Since the ASM is establishment based, it provides data for each of the 425 manufacturing industries in the Standard Industrial Classification System (SIC) and area data for industry groups.

The monthly survey M3-1 does not provide information at the complete SIC industry detail because of the smaller size of the reporting panel and the fact that most companies cannot provide shipments, inventories, and orders data monthly for individual establishments.

The monthly reporting panel consists of approximately 5,000 reporting units and includes virtually all companies with 1,000 or more employees and a sample of the smaller ones. The reporting unit typically comprises the entire operations of a company although many of the larger diversified companies file separate divisional type reports for their operations in different industries.

Most of the reporting units include mixed industry activity even within the broad industry categories of the monthly survey. The survey methodology assumes that the month-to-month changes of the reporting units classified in each industry category represent effectively the month-to-month movements of the establishments in the SIC industries which make up the category. Thus, the monthly reports are used to update the ASM estimates by using a link relative of matched companies in each industry.

EXPLANATION OF TERMS

Value of Shipments—Shipments in the monthly survey are equivalent to value of shipments as reported in the ASM which are received or receivable net selling values, f.o.b. plant, after discounts and allowances and excluding freight charges and excise taxes. Included in shipments are the value of all products sold, transferred to other plants of the same company, or shipped on consignment.

Shipments also include receipts of establishments in the industry for contract work performed for others, resales, receipts for miscellaneous activities such as the sale of scrap and refuse; value of installation and repair work performed by employees of the plant; and value of research and development performed at the plant. In the aircraft industry and ship-

building, the value of work done in a given year varies considerably from the value of shipments because of the long lead time between the input of the materials and labor and the shipments of the completed aircraft or ship. In the annual survey, therefore, the value of work done during the year is requested rather than the value of shipments.

The value of shipments figures developed from the ASM contain duplication at the all manufacturing and industry group levels since the products of some industries are used as materials by other industries within the industry group. With the exception of motor vehicles, it is not significant at the 4-digit SIC group level. Since the M3-1 industry categories typically are groupings of industries, this duplication is significant for the all manufacturing, durable goods and nondurable goods categories and the various market groups. The significance of the duplication within the specific M3-1 industry groups varies depending on the 4-digit industry composition of these groups. It is most pronounced in a few highly integrated industry areas such as primary metals and motor vehicles and parts.

Since most monthly reports are for the entire company or major divisions rather than establishments, the companies are requested to report net sales, i.e., total company billings after discounts and allowances. Companies which file divisional reports are requested to treat transfers from one division of the company to another as if they were net sales to outside customers. Although this definition of shipments in the monthly reports differs from that used in the annual establishment reports, it is assumed that the month-to-month changes in company sales in the industry are representative of the month-to-month shipments of the establishments in the industry.

Inventories—End-of-month inventories in the monthly survey are identical in definition to the end-of-year inventories in the ASM. In the ASM, respondents are asked to report inventories of individual establishments at approximate current cost if feasible; otherwise, "at book values." Since different methods of inventory valuation are used (LIFO, FIFO, etc.), the definition of the aggregate inventories for establishments in an industry is not precise. The figures on the change in inventories from one period to the next are of greater significance than the actual aggregates.

Inventories are reported by stage of fabrication: (a) finished goods; (b) work in process; and (c) materials, supplies, fuel, and other inventories. In using inventories by stage of fabrication at the all manufacturing and 2-digit industry levels as well as for the durable and nondurable goods sectors, it should be noted that a finished product of one industry may be a raw material for another industry at the next stage of fabrication. Insofar as the durable and nondurable goods sectors and also the 2-digit industry groups contain industries with successive stages of processing, the same type of commodity may be included under different inventory categories in the aggregate statistics.

New Orders Received and Unfilled Orders—Orders as reported in the monthly survey are net of cancellations during the month. They include orders received during the period and also filled during the period as well as those orders received for future delivery. They also include the net sales value of contract

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change documents which increase or decrease the sales value of the unfilled orders to which they relate. Orders include only those supported by binding legal documents such as signed contracts, or letter contracts. In case of letter contracts the full amount of the sales value is included if the parties are in substantial agreement on the amount; otherwise, only the funds specifically authorized to be expended are included. The respondent is instructed to deduct the sales value of partial or complete cancellation of existing orders.

Unfilled orders include orders as defined above that have not yet passed through the sales account. Generally, unfilled orders at the end of the reporting period are equal to unfilled orders at

the beginning of the period plus net new orders received less net sales.

While both new orders and unfilled orders are used in reviewing individual company reports for consistency, only unfilled orders are estimated directly in the tabulated totals. New orders are derived from the shipments plus net change in unfilled orders for each industry category. This procedure is followed for seasonally adjusted data as well as for the unadjusted data. Shipments and unfilled orders are seasonally adjusted independently. Seasonally adjusted new orders are derived from seasonally adjusted shipments and seasonally adjusted unfilled orders.

